

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. – 20. (Canceled)

21. (New) An air-conditioning system for a motor vehicle, comprising:
a refrigerant circuit with a plurality of heat exchangers through which a refrigerant can be passed,
wherein one of the heat exchangers is simultaneously part of a coolant circuit,
wherein the refrigerant circuit is capable of a heating mode,
wherein the refrigerant circuit comprises a first set of parts which are inoperative in the heating mode and a second set of parts which are active in the heating mode,
wherein the refrigerant circuit is configured such that refrigerant recirculation from the first set of parts into the second set of parts is provided on demand in a refrigerant recirculation mode, and
wherein the refrigerant circuit is configured to disconnect the one of the heat exchangers from inflow of coolant flowing in the coolant circuit for the refrigerant recirculation mode.

22. (New) The air-conditioning system as claimed in claim 21, the first set of parts comprises the one of the heat exchangers and another additional heat exchanger.

23. (New) The air-conditioning system as claimed in claim 21, wherein the coolant circuit is an engine coolant circuit.

24. (New) The air-conditioning system as claimed in claim 21, further comprising a means for determining a demand for refrigerant.

25. (New) The air-conditioning system as claimed in claim 24, wherein the means for determining a demand for refrigerant comprises one or more temperature sensors and/or pressure sensors.

26. (New) The air-conditioning system as claimed in claim 24, wherein the means for determining a demand for refrigerant comprises a temperature sensor in the refrigerant

circuit provided downstream of a compressor and upstream of a heater, as seen in a direction of flow of the refrigerant.

27. (New) The air-conditioning system as claimed in claim 24, wherein the means for determining a demand for refrigerant comprises a pressure sensor in the refrigerant circuit arranged upstream of a compressor, as seen in a direction of flow of the refrigerant.

28. (New) The air-conditioning system as claimed in claim 21, wherein the refrigerant circuit has parts through which refrigerant flows in the heating mode, and wherein the air-conditioning system further comprises a means for determining whether there is sufficient refrigerant in the parts of the refrigerant circuit through which refrigerant flows in the heating mode.

29. (New) The air-conditioning system as claimed in claim 21, wherein a nonreturn valve is provided in the refrigerant circuit,

wherein the nonreturn valve, in the heating mode, is configured to separate the second set parts of the refrigerant circuit from the first set of parts of the refrigerant circuit, and

wherein the nonreturn valve, in the refrigerant recirculation mode, allows refrigerant to pass from the first set of parts of the refrigerant circuit to the second set of parts of the refrigerant circuit.

30. (New) A method for operating the air-conditioning system, wherein the air-conditioning system comprises a refrigerant circuit with a plurality of heat exchangers through which a refrigerant can be passed, wherein one of the heat exchangers is simultaneously part of a coolant circuit, wherein the refrigerant circuit is capable of a heating mode, wherein the refrigerant circuit comprises a first set of parts which are inoperative in the heating mode and a second set of parts which are active in the heating mode, wherein the refrigerant circuit is configured such that refrigerant recirculation from the first set of parts into the second set of parts is provided on demand, wherein the method comprises:

determining, at least in the heating mode, a demand for refrigerant in the second set of parts; and

withdrawing refrigerant from the first set of parts to feed the second set of parts by disconnecting the one of the heat exchangers from inflow of coolant flowing in the coolant circuit.

31. (New) The method as claimed in claim 30, wherein at least one parameter is monitored to determine the demand for refrigerant, wherein the at least one parameter is a hot-gas temperature, a suction pressure, a temperature of the refrigerant, a high pressure, a compressor rotational speed, or any combination thereof.

32. (New) The method as claimed in claim 31, wherein a plurality of parameters are monitored for determining the demand for refrigerant,
wherein threshold values for the monitored parameters are determined, and
wherein the method further comprises detecting the monitored parameters that exceed or fall below the determined threshold values.

33. (New) The method as claimed in claim 32, wherein the threshold values are derived from characteristic diagrams determined from the parameters to be monitored.

34. (New) The method as claimed in claim 30, further comprising terminating the refrigerant recirculation after a predetermined time; after a heating power has dropped below a predetermined, minimum heating power; after a hot-gas temperature has dropped below a hot-gas temperature threshold value; or after a suction pressure has dropped below a suction pressure threshold value.

35. (New) The method as claimed in claim 30, wherein an expansion valve in the first set of parts is closed and air routing in the air-conditioning system is switched to recirculated air during refrigerant recirculation.

36. (New) The method as claimed in claim 35, wherein the expansion valve is opened again after suction pressure has dropped below a predetermined suction pressure level.

37. (New) The method as claimed in claim 30, wherein a fan is switched on in order to apply air to a gas cooler.

38. (New) The method as claimed in claim 30, wherein, when the one of the heat exchangers is operated in the heating mode, the one of the heat exchangers is disconnected from the coolant circuit when suction pressure exceeds an upper limit value.

39. (New) The method as claimed in claim 38, wherein the one of the heat exchangers is connected back into the coolant circuit after the suction pressure has dropped below a second limit value.

40. (New) The method as claimed in claim 30, wherein a constant suction pressure is set by a flow of coolant in an evaporator.